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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,568	12/07/2001	Vijaya N. V. Raghavan	10002601-4	4012

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EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1712

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10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/016,568	RAGHAVAN ET AL.	
	Examiner	Art Unit	
	Marc S. Zimmer	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 August 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 18-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 18, 19, 21 and 22 is/are rejected.

7) Claim(s) 20 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

Specification

On page 11 of the Specification, Applicants have identified Dow Corning 93-500 as one of the commercial products that cures by vinyl polymerization. However, Rich, U.S. Patent # 4,886,240 discloses this same product as an addition-curing polysiloxane i.e. one that is crosslinked by a succession of addition reactions between an alkenyl group-functionalized silicone and the Si-H groups on an organohydrogenpolysiloxane. Likewise, the product information sheet obtained from the Dow Corning Corporation internet web site characterizes this product as an addition-cure silicone (see under the heading "Two Part Sealants"). Clarification is needed.

The Specification should be amended to reflect that parent application serial no. 09/603,107 has evolved in U.S. Patent # 6,451,142.

Claim Analysis

Base claim 18 is a product-by-process claim. According to MPEP 2113, "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, "the Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ

324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

Significantly, it is noted that claim 18 is directed to, "a polymer for use in outgassing environments" as opposed to, for instance, a collection of individual quantities of a polymer used for the same. Inasmuch as the preamble mentions only the polymer without any indication that it is apportioned into amounts needed for the intended application, it is proper to ignore the process steps relating to selecting a quantity of materials corresponding to at least four times the quantity of a single application and subdividing the polymer. Hence, claim 18 is essentially claiming a curable polymer that will provide low TML and CVCM measurements and wherein curing is arrested. Consistent with *In re Thorpe*, the inhibition of cure may be realized by storing the polymer in a chilled environment, as the Applicants have proposed, or by some alternate strategy such as perhaps employing a latent catalyst or incorporating an inhibitor. In general, polymers products that exhibit low TML and CVCM values are those not produced via a condensation polymerization mechanism (and, therefore, yield volatile compounds as by-products of the reaction) or to which volatile compounds (solvents) are not added as essential ingredients.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18 and 19

Claims ~~1 and 2~~ are rejected under 35 U.S.C. 102(b) as being anticipated by Hermansen et al., U.S. Patent # 5,367,006.

Hermansen discloses a transfer adhesive that may be employed in the construction of circuit boards for an electronic apparatus. According to column 2, lines 30-68 through column 3, lines 1-3, the organic components of the adhesive composition are (i) an aliphatic epoxy resin and (ii) a stoichiometric amount of an aliphatic polyamine curative. Inorganic fillers and thixotropic adjuvants are also deemed integral to the composition. In column 5 of the reference, Hermansen outlines a sequence for preparing individual quantities of the above composition that mirrors in every respect the process steps recited in claim 18. In a first step an epoxy resin, a curative, and other fillers are mixed in a vacuum mixer (column 5, lines 5-6). The component are mixed in batches on a 2 kg scale before dividing the mixture up into smaller (6 oz) portions that are dispensed into a syringe or cartridge. The individual samples are then stored at -40° until they are needed. It should be noted that 2 kg is the weight equivalent of 70.5 ounces hence the condition that the batches contain at least four times the quantity of material required for a single application is satisfied. Exemplary formulations provided in column 4 appear to indicate that a mixture of epoxy derivatives of cardanol is cured with a diamine derivative of linoleic dimer acid are favored.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

d104 22
Claims ~~5-8~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hermansen et al., U.S. Patent # 5,367,006.

Hermansen states that, in certain cases, the epoxy must meet certain stringent outgassing standards as defined by their TML and CVCM values. Accordingly, the composition would have to be subjected to outgassing despite the absence of any explicit teaching that the procedure was performed. Moreover, the removal of the volatile, low molecular weight compounds such as those mentioned in claim 22 is inherent to the outgassing method. As for the duration, pressure and temperature at which outgassing is performed, one of ordinary skill is capable, determine the amount of time required to meet the standards set forth by NASA. Besides, Applicants have not established criticality for this limitation.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dent et al., U.S. Patent # 5,977,226. Dent discloses an addition-curable polyorganosiloxane composition (column 2, lines 1-35) that has a sufficiently low content of gaseous and volatile materials that it may be used in vacuum dispensing processes. The composition is comprised of (A) an alkenyl group-functionalized polydiorganosiloxane, a vinyl group-functionalized silicone MQ resin, (C) an organohydrogensiloxane having at

least three-silicon-bound hydrogen atoms per molecule and made available in an amount that provides one to three hydrogen atoms for every alkenyl group in (A) and (B) according to column 5, lines 14-17, (D) an adhesion promoter, (E) a platinum hydrosilylation catalyst, and (F) a hydrosilylation reaction inhibitor having a boiling point above 150° C at 0.10 MPa and capable of retarding curing at ambient temperature. In column 9, lines 21-49, a process is described whereby the materials are degassed prior to being added to the vacuum dispensing apparatus though the residence time of the materials in the reduced pressure environment is substantially smaller than that disclosed in claims 21 and 22. In view of Dent's contention that the compositions disclosed therein are vacuum dispensable after the individual components of said composition are subjected to the degassing process delineated in column 9, they will inherently provide low TML and CVCM measurements. Further, the presence of the inhibitor will render the composition unreactive until such time that it is desired to cure the mixture. Temperatures exceeding 70° C would be needed according to column 10, lines 21-25.

Allowable Subject Matter

Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The polymer composition disclosed by Dent is cured by addition, or hydrosilylation instead of the vinyl polymerization mechanism mandated by claim 20. The Examiner could not ascertain what would motivate one of ordinary skill to replace the organohydrogensiloxane and platinum catalyst in *Dent* with

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an alkenyl group polymerization initiator such as a peroxide or an azo compound to arrive at the instant invention.

Hanneman et al., U.S. Patent # 5,436,061 discloses a silicone PSA having a TML content of less than 1% and a CVCM content of less than 0.1% but there is no indication that the product is frozen or imparted with storage stability by using a latent catalyst or adding an inhibitor so that it may be used at a later date.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

February 3, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700